

Date of Submission: 10/6/2023

FSA **23S55** – Certain 2020 – 2022 Ford Explorer Vehicles – Rear Axle Bolt Fractures

### Chronology

On **April 7th, 2022**, Ford's Field Review Committee (FRC) approved Field Service Action (FSA) 22S27 on certain 2020 to 2022 Explorer vehicles. The service fix for 22S27 depended on the vehicle's powerpack. For certain retail powerpack variants, dealers would update the vehicle's Powertrain Control Module (PCM) software to engage the Electronic Park Brake (EPB) when Park is commanded. For certain police power pack variants built with park by cable versus an EPB, dealers would replace the rear axle bushing with a remedy bushing modified to increase fastener engagement length. Remaining powerpack variants were not included in the FSA due to low warranty rates and no failures post-modification of an axle bolt installation torque process at the rear subframe module assembler. On that date, Ford's FRC also approved FSA 22N06 to provide customers the opportunity to replace their vehicle's rear axle bushing and axle cover in the event of an axle bolt breakage after FSA 22S27 was performed. At the time of these FSA approvals, CCRG and the Driveline Systems Engineering team judged the PCM software update to be an acceptable method of preventing the high severity failure mode of a roll-in-park condition. The PCM software update did not remedy the loss of motive power failure mode, but customer verbatims suggest the customer would experience extreme noise, vibration, and harshness preceding this condition, and loss of motive power rate of occurrence was relatively low. This approach was also reviewed with the National Highway Traffic Safety Administration (NHTSA) at this time.

On **March 17, 2023**, Ford's FRC approved FSA 23S16 to address certain Explorer vehicles in the 22S27 population which received an erroneous PCM update software that did not provide for EPB engagement when park was commanded. A series of meetings with NHTSA followed to discuss their separate concern with the potential for loss of motive power in the event of axle bolt breakage while driving.

### **June – August, 2023**

NHTSA informed Ford they are opening a Recall Query to assess the remedies of FSAs 22S27 and 23S16, specifically for those vehicles receiving the PCM software to engage the EPB when park is commanded to prevent vehicle roll-in-park. Ford opened an investigation in CCRG to manage the Recall Query response to NHTSA and prepared responses and documents for NHTSA's questions.

### **September 2023**

Ford provided a response to RQ23-002 and met with NHTSA to discuss the RQ.

In reviewing the updated field data associated with Ford's response to NHTSA's RQ, CCRG and Driveline Systems Engineering reassessed their previous recommendations. Based on the new assessment, vehicles previously recalled under 22S27 that did not receive a new bushing, as well as certain additional powerpacks, were recommended for inclusion in a new safety recall action.

On **September 29, 2023**, Ford's Field Review Committee reviewed the concern and approved a field action.

Inclusive of 22S27, Ford is aware of 396 reports of rear axle bolt failures, less than 5% of which resulted in a roll-in-park or loss of motive power condition. Ford is not aware of any reports of roll in park on vehicles that have received the 22S27 Electronic Park Brake software strategy update.

Ford is not aware of any reports of accident or injury related to this condition.